



SEQUENCE LISTING

<110> JORGE H. CAPDEVILA, MICHAEL WATERMAN, AND VIJAKUMAR HOLLA

<120> COMPOSITIONS AND METHODS RELATING TO
HYPERTENSION

<130> 22000.0110U2

<150> 60/228,947

<151> 2000-08-29

<160> 9

<170> FastSEQ for Windows Version 4.0

<210> 1

<211> 4123

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; Note =
synthetic construct

<221> misc_feature

<222> (1)...(4123)

<223> n = g, a, c or t(u)

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<210> 2

<211> 507

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; Note =
synthetic construct

<400> 2

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Gly Phe Phe Gln Trp Ala Phe Leu Leu Ser Leu Phe Leu Val Leu Phe
      20              25              30
Lys Ala Val Gln Phe Tyr Leu Arg Gln Trp Leu Leu Lys Thr Leu
      35              40              45

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Gln His Phe Pro Cys Met Pro Ser His Trp Leu Trp Gly His His Leu
 50 55 60
 Lys Asp Lys Glu Leu Gln Gln Ile Leu Ile Trp Val Glu Lys Phe Pro
 65 70 75 80
 Ser Ala Cys Leu Gln Cys Leu Ser Gly Ser Asn Ile Arg Val Leu Leu
 85 90 95
 Tyr Asp Pro Asp Tyr Val Lys Val Val Leu Gly Arg Ser Asp Pro Lys
 100 105 110
 Ala Ser Gly Ile Tyr Gln Phe Phe Ala Pro Trp Ile Gly Tyr Gly Leu
 115 120 125
 Leu Leu Leu Asn Gly Lys Lys Trp Phe Gln His Arg Arg Met Leu Thr
 130 135 140
 Pro Ala Phe His Tyr Asp Ile Leu Lys Pro Tyr Val Lys Ile Met Ala
 145 150 155 160
 Asp Ser Val Asn Ile Met Leu Asp Lys Trp Glu Lys Leu Asp Gly Gln
 165 170 175
 Asp His Pro Leu Glu Ile Phe His Cys Val Ser Leu Met Thr Leu Asp
 180 185 190
 Thr Val Met Lys Cys Ala Phe Ser Tyr Gln Gly Ser Val Gln Leu Asp
 195 200 205
 Glu Asn Ser Lys Leu Tyr Thr Lys Ala Val Glu Asp Leu Asn Asn Leu
 210 215 220
 Thr Phe Phe Arg Leu Arg Asn Ala Phe Tyr Lys Tyr Asn Ile Ile Tyr
 225 230 235 240
 Asn Met Ser Ser Asp Gly Arg Leu Ser His His Ala Cys Gln Ile Ala
 245 250 255
 His Glu His Thr Asp Gly Val Ile Lys Met Arg Lys Ser Gln Leu Gln
 260 265 270
 Asn Glu Glu Glu Leu Gln Lys Ala Arg Lys Lys Arg His Leu Asp Phe
 275 280 285
 Leu Asp Ile Leu Leu Phe Ala Arg Met Glu Asp Arg Asn Ser Leu Ser
 290 295 300
 Asp Glu Asp Leu Arg Ala Glu Val Asp Thr Phe Met Phe Glu Gly His
 305 310 315 320
 Asp Thr Thr Ala Ser Gly Ile Ser Trp Ile Phe Tyr Ala Leu Ala Thr
 325 330 335
 His Pro Glu His Gln Gln Arg Cys Arg Glu Glu Val Gln Ser Ile Leu
 340 345 350
 Gly Asp Gly Thr Ser Val Thr Trp Asp His Leu Gly Gln Met Pro Tyr
 355 360 365
 Thr Thr Met Cys Ile Lys Glu Ala Leu Arg Leu Tyr Pro Pro Val Ile
 370 375 380
 Ser Val Ser Arg Glu Leu Ser Ser Pro Val Thr Phe Pro Asp Gly Arg
 385 390 395 400
 Ser Ile Pro Lys Gly Ile Thr Ala Thr Ile Ser Ile Tyr Gly Leu His
 405 410 415
 His Asn Pro Arg Phe Trp Pro Asn Pro Lys Val Phe Asp Pro Ser Arg
 420 425 430
 Phe Ala Pro Asp Ser Ser His His Ser His Ala Tyr Leu Pro Phe Ser
 435 440 445
 Gly Gly Ser Arg Asn Cys Ile Gly Lys Gln Phe Ala Met Asn Glu Leu
 450 455 460
 Lys Val Ala Val Ala Leu Thr Leu Leu Arg Phe Glu Leu Leu Pro Asp
 465 470 475 480
 Pro Thr Arg Ile Pro Val Pro Ile Ala Arg Leu Val Leu Lys Ser Lys
 485 490 495
 Asn Gly Ile His Leu Cys Leu Lys Lys Leu Arg
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<210> 3
 <211> 508
 <212> PRT
 <213> Artificial Sequence

<220>
 <223> Description of Artificial Sequence; Note =
 synthetic construct

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 Lys Thr Ala Gln Leu Tyr Leu His Arg Gln Trp Leu Leu Ser Ser Thr
 35 40 45
 Gln Gln Phe Pro Ser Pro Pro Ser His Trp Leu Phe Gly His Lys Ile
 50 55 60
 Leu Lys Asp Gln Asp Leu Gln Asp Ile Leu Thr Arg Ile Lys Asn Phe
 65 70 75 80
 Pro Ser Ala Cys Pro Gln Trp Leu Trp Gly Ser Lys Val Arg Ile Gln
 85 90 95
 Val Tyr Asp Pro Asp Tyr Met Lys Leu Ile Leu Gly Arg Ser Asp Pro
 100 105 110
 Lys Ala Asn Gly Ser Tyr Arg Phe Leu Ala Pro Trp Ile Gly Arg Gly
 115 120 125
 Leu Leu Met Leu Asp Gly Gln Thr Trp Phe Gln His Arg Arg Met Leu
 130 135 140
 Thr Pro Ala Phe His Tyr Asp Ile Leu Lys Pro Tyr Thr Glu Ile Met
 145 150 155 160
 Ala Asp Ser Val Arg Val Met Leu Asp Lys Trp Glu Gln Ile Val Gly
 165 170 175
 Gln Asp Ser Thr Leu Glu Ile Phe Arg His Ile Thr Leu Met Thr Leu
 180 185 190
 Asp Thr Ile Met Lys Cys Ala Phe Ser His Glu Gly Ser Val Gln Leu
 195 200 205
 Asp Arg Lys Tyr Lys Ser Tyr Ile Gln Ala Val Glu Asp Leu Asn Asp
 210 215 220
 Leu Val Phe Ser Arg Val Arg Asn Ile Phe His Leu Asn Asp Ile Ile
 225 230 235 240
 Tyr Arg Val Ser Ser Asn Gly Cys Lys Ala Asn Ser Ala Cys Gln Leu
 245 250 255
 Ala His Asp His Thr Asp Gln Val Ile Lys Ser Arg Arg Ile Gln Leu
 260 265 270
 Gln Asp Glu Glu Glu Leu Glu Lys Leu Lys Lys Lys Arg Arg Leu Asp
 275 280 285
 Phe Leu Asp Ile Leu Leu Phe Ala Arg Met Glu Asn Gly Lys Ser Leu
 290 295 300
 Ser Asp Lys Asp Leu Arg Ala Glu Val Asp Thr Phe Met Phe Glu Gly
 305 310 315 320
 His Asp Thr Thr Ala Ser Gly Ile Ser Trp Ile Phe Tyr Ala Leu Ala
 325 330 335
 Thr Asn Pro Glu His Gln Gln Arg Cys Arg Lys Glu Ile Gln Ser Leu
 340 345 350
 Leu Gly Asp Gly Thr Ser Ile Thr Trp Asn Asp Leu Asp Lys Met Pro
 355 360 365
 Tyr Thr Thr Met Cys Ile Lys Glu Ala Leu Arg Ile Tyr Pro Pro Val
 370 375 380

Pro Ser Val Ser Arg Glu Leu Ser Ser Pro Val Thr Phe Pro Asp Gly
 385 390 395 400
 Arg Ser Leu Pro Lys Gly Ile His Val Met Leu Ser Phe Tyr Gly Leu
 405 410 415
 His His Asn Pro Thr Val Trp Pro Asn Pro Glu Val Phe Asp Pro Ser
 420 425 430
 Arg Phe Ala Pro Gly Ser Ser Arg His Ser His Ser Phe Leu Pro Phe
 435 440 445
 Ser Gly Gly Ala Arg Asn Cys Ile Gly Lys Gln Phe Ala Met Asn Glu
 450 455 460
 Leu Lys Val Ala Val Ala Leu Thr Leu Leu Arg Phe Glu Leu Leu Pro
 465 470 475 480
 Asp Pro Thr Arg Val Pro Ile Pro Ile Pro Arg Ile Val Leu Lys Ser
 485 490 495
 Lys Asn Gly Ile His Leu His Leu Lys Glu Leu Gln
 500 505

<210> 4

<211> 2116

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; Note =
 synthetic construct

<400> 4

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<210> 5

<211> 519

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; Note =
synthetic construct

<400> 5

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Gly Ile Leu Gln Ala Ala Ser Leu Leu Ile Leu Leu Leu Leu Leu Ile
      20             25             30
Lys Ala Val Gln Leu Tyr Leu His Arg Gln Trp Leu Leu Lys Ala Leu
      35             40             45
Gln Gln Phe Pro Cys Pro Pro Ser His Trp Leu Phe Gly His Ile Gln
      50             55             60
Glu Leu Gln Gln Asp Gln Glu Leu Gln Arg Ile Gln Lys Trp Val Glu
65             70             75             80
Thr Phe Pro Ser Ala Cys Pro His Trp Leu Trp Gly Gly Lys Val Arg
      85             90             95
Val Gln Leu Tyr Asp Pro Asp Tyr Met Lys Val Ile Leu Gly Arg Ser
      100            105            110
Asp Pro Lys Ser His Gly Ser Tyr Arg Phe Leu Ala Pro Trp Ile Gly
      115            120            125
Tyr Gly Leu Leu Leu Leu Asn Gly Gln Thr Trp Phe Gln His Arg Arg
      130            135            140
Met Leu Thr Pro Ala Phe His Tyr Asp Ile Leu Lys Pro Tyr Val Gly
145            150            155            160
Leu Met Ala Asp Ser Val Arg Val Met Leu Asp Lys Trp Glu Glu Leu
      165            170            175
Leu Gly Gln Asp Ser Pro Leu Glu Val Phe Gln His Val Ser Leu Met
      180            185            190
Thr Leu Asp Thr Ile Met Lys Cys Ala Phe Ser His Gln Gly Ser Ile
      195            200            205
Gln Val Asp Arg Asn Ser Gln Ser Tyr Ile Gln Ala Ile Ser Asp Leu
      210            215            220
Asn Asn Leu Val Phe Ser Arg Val Arg Asn Ala Phe His Gln Asn Asp
225            230            235            240
Thr Ile Tyr Ser Leu Thr Ser Ala Gly Arg Trp Thr His Arg Ala Cys
      245            250            255
Gln Leu Ala His Gln His Thr Asp Gln Val Ile Gln Leu Arg Lys Ala
      260            265            270
Gln Leu Gln Lys Glu Gly Glu Leu Glu Lys Ile Lys Arg Lys Arg His
      275            280            285
Leu Asp Phe Leu Asp Ile Leu Leu Leu Ala Lys Met Glu Asn Gly Ser
      290            295            300
Ile Leu Ser Asp Lys Asp Leu Arg Ala Glu Val Asp Thr Phe Met Phe
305            310            315            320
Glu Gly His Asp Thr Thr Ala Ser Gly Ile Ser Trp Ile Leu Tyr Ala
      325            330            335

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Leu Ala Thr His Pro Lys His Gln Glu Arg Cys Arg Glu Glu Ile His
 340 345 350
 Ser Leu Leu Gly Asp Gly Ala Ser Ile Thr Trp Asn His Leu Asp Gln
 355 360 365
 Met Pro Tyr Thr Thr Met Cys Ile Lys Glu Ala Leu Arg Leu Tyr Pro
 370 375 380
 Pro Val Pro Gly Ile Gly Arg Glu Leu Ser Thr Pro Val Thr Phe Pro
 385 390 395 400
 Asp Gly Arg Ser Leu Pro Lys Gly Ile Met Val Leu Leu Ser Ile Tyr
 405 410 415
 Gly Leu His His Asn Pro Lys Val Trp Pro Asn Pro Glu Val Phe Asp
 420 425 430
 Pro Phe Arg Phe Ala Pro Gly Ser Ala Gln His Ser His Ala Phe Leu
 435 440 445
 Pro Phe Ser Gly Gly Ser Arg Asn Cys Ile Gly Lys Gln Phe Ala Met
 450 455 460
 Asn Glu Leu Lys Val Ala Thr Ala Leu Thr Leu Leu Arg Phe Glu Leu
 465 470 475 480
 Leu Pro Asp Pro Thr Arg Ile Pro Ile Pro Ile Ala Arg Leu Val Leu
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 Lys Ser Lys Asn Gly Ile His Leu Arg Leu Arg Arg Leu Pro Asn Pro
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 Cys Glu Asp Lys Asp Gln Leu
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<210> 6

<211> 2576

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; Note =
synthetic construct

<400> 6

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gcttgctcct	gttgaatggg	cagacatggt	tccagcatcg	acggatgctg	acccagcct	480
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tgtttgaccc	tttccgtttt	gcaccggggt	ctgctcaaca	cagccacgct	ttcctgcct	1380

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<210> 7

<211> 519

<212> PRT

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; Note =
synthetic construct

<400> 7

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1           5           10           15
Gly Ile Leu Gln Val Thr Ser Leu Leu Ile Leu Leu Leu Leu Ile
20           25           30
Lys Ala Ala Gln Leu Tyr Leu His Arg Gln Trp Leu Leu Lys Ala Leu
35           40           45
Gln Gln Phe Pro Cys Pro Pro Ser His Trp Leu Phe Gly His Ile Gln
50           55           60
Glu Phe Gln His Asp Gln Glu Leu Gln Arg Ile Gln Glu Arg Val Lys
65           70           75           80
Thr Phe Pro Ser Ala Cys Pro Tyr Trp Ile Trp Gly Gly Lys Val Arg
85           90           95
Val Gln Leu Tyr Asp Pro Asp Tyr Met Lys Val Ile Leu Gly Arg Ser
100          105          110
Asp Pro Lys Ser His Gly Ser Tyr Arg Phe Leu Ala Pro Arg Ile Gly
115          120          125
Tyr Gly Leu Leu Leu Leu Asn Gly Gln Thr Trp Phe Gln His Arg Arg
130          135          140
Met Leu Thr Pro Ala Phe His Asn Asp Ile Leu Lys Pro Tyr Val Gly
145          150          155          160
Leu Met Ala Asp Ser Val Arg Val Met Leu Asp Lys Trp Glu Glu Leu
165          170          175
Leu Gly Gln Asp Ser Pro Leu Glu Val Phe Gln His Val Ser Leu Met
180          185          190
Thr Leu Asp Thr Ile Met Lys Ser Ala Phe Ser His Gln Gly Ser Ile
195          200          205
Gln Val Asp Arg Asn Ser Gln Ser Tyr Ile Gln Ala Ile Ser Asp Leu

```


210		215		220
Asn Ser Leu Val Phe Cys Cys Met Arg Asn Ala Phe His Glu Asn Asp				
225		230		240
Thr Ile Tyr Ser Leu Thr Ser Ala Gly Arg Trp Thr His Arg Ala Cys				
	245		250	255
Gln Leu Ala His Gln His Thr Asp Gln Val Ile Gln Leu Arg Lys Ala				
	260		265	270
Gln Leu Gln Lys Glu Gly Glu Leu Glu Lys Ile Lys Arg Lys Arg His				
	275		280	285
Leu Asp Phe Leu Asp Ile Leu Leu Leu Ala Lys Met Glu Asn Gly Ser				
	290		295	300
Ile Leu Ser Asp Lys Asp Leu Arg Ala Glu Val Asp Thr Phe Met Phe				
305		310		320
Glu Gly His Asp Thr Thr Ala Ser Gly Ile Ser Trp Ile Leu Tyr Ala				
	325		330	335
Leu Ala Thr His Pro Lys His Gln Glu Arg Cys Arg Glu Glu Ile His				
	340		345	350
Gly Leu Leu Gly Asp Gly Ala Ser Ile Thr Trp Asn His Leu Asp Gln				
	355		360	365
Met Pro Tyr Thr Thr Met Cys Ile Lys Glu Ala Leu Arg Leu Tyr Pro				
	370		375	380
Pro Val Pro Gly Ile Gly Arg Glu Leu Ser Thr Pro Val Thr Phe Pro				
385		390		400
Asp Gly Arg Ser Leu Pro Lys Gly Ile Met Val Leu Leu Ser Ile Tyr				
	405		410	415
Gly Leu His His Asn Pro Lys Val Trp Pro Asn Leu Glu Val Phe Asp				
	420		425	430
Pro Ser Arg Phe Ala Pro Gly Ser Ala Gln His Ser His Ala Phe Leu				
	435		440	445
Pro Phe Ser Gly Gly Ser Arg Asn Cys Ile Gly Lys Gln Phe Ala Met				
	450		455	460
Asn Gln Leu Lys Val Ala Arg Ala Leu Thr Leu Leu Arg Phe Glu Leu				
465		470		480
Leu Pro Asp Pro Thr Arg Ile Pro Ile Pro Ile Ala Arg Leu Val Leu				
	485		490	495
Lys Ser Lys Asn Gly Ile His Leu Arg Leu Arg Arg Leu Pro Asn Pro				
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Cys Glu Asp Lys Asp Gln Leu				
	515			

<210> 8

<211> 1872

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; Note =
synthetic construct

<400> 8

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gggtccaagt	ctgccctccc	ccttcactct	ccccacaagt	gggcgggaca	atcctcccat	240
gacttaagca	caggtggaca	ggggtgggtca	gagagaggaa	ggggcactca	gagatccagc	300
aggtgctgca	ccatgagtgt	ctctgtcctg	agccccagca	gacgcctggg	tggtgtctcc	360
gggatcctcc	aagtgacctc	cctgctcatt	ctgtctctgc	tgctgatcaa	ggcagctcag	420
ctctacctgc	ataggcagtg	gctgctcaaa	gccctccagc	agttcccgtg	ccctccctcc	480

```

cactggctct tcgggcacat ccaggagttc caacacgacc aggagctaca acggattcag      540
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gtccagctct atgaccctga ctatatgaag gtgattctgg ggagatcaga cccgaaatcc      660
catggttcct acagattcct ggctccacgg attgggtacg gcttgctcct gttgaatggg      720
cagacatggt tccagcatcg acggatgctg accccagcct tccacaatga catcctgaag      780
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atcatgaaga gtgccttcag ccatcagggc agcatccagg tggacaggaa ttctcagtc      960
tacatccagg ccattagtga cctgaacagc ctggtttttt gctgtatgag gaatgccttt     1020
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cagctggccc atcagcacac agaccaagtg atccaactga ggaaggctca actacagaag     1140
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cgctttgagc tgctgcctga tcccaccagg atccccatcc ccattgcacg acttgtgttg     1800
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gaccagcttt ga                                             1872

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<210> 9

<211> 21990

<212> DNA

<213> Artificial Sequence

<220>

<223> Description of Artificial Sequence; Note =
synthetic construct

<221> misc_feature

<222> (1)...(21990)

<223> n = g, a, c or t(u)

<400> 9

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```

[illegible]

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[illegible]

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